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MONTANA DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES
MONTHLY ACTIVITIES REPORT OF THE AIR QUALITY BUREAU

STATE DOCUMENTS

November 1976

FEB 2'77

1. Highlights

Work on total property inventory neared completion.

Review of Hoerner-Waldorf PER comments and renewal application.

Time was spent on establishing meteorological studies at Columbia Falls and Poplar River.

Action against The Anaconda Smelter, Anaconda, for violations of ambient air quality standards is now being handled by the Legal Division.

2. Ambient Air Quality Network

Standards Exceeded:

TSP - Anders, Columbia Falls, 1 viol. Fed. sec. std.
Hastie, E. Helena, 1 viol. Fed. Sec. std.
SO_2 - Saddle Mtn., E. Helena, 3 viol. MT 1-hr std.
Kennedy Park, E. Helena, 2 viol. Fed. 3-hr. std.
Kennedy Park, E. Helena, 1 viol. Fed 24-hr. std.
Mill Creek, Anaconda, 8 viol. MT 1-hr. std.
Hiway Jct., Anaconda 32 viol. MT 1-hr std.
Hiway Jct., Anaconda, 4 viol MT 24-hr. std.
Hiway Jct., Anaconda, 1 viol. Fed. 24-hr std.
Hiway Jct., Anaconda, 6 viol. Fed. 3-hr. std.
C-Hill, Anaconda, 15 viol. MT 1-hr. std.
C-Hill, Anaconda, 1 viol. MT 24-hr. std.
C-Hill, Anaconda, 1 viol. Fed. 24-hr. std.
C-Hill, Anaconda, 2 viol. Fed. 3-hr. std.

Air Stagnation Advisories:

Air Stagnation Advisories issued on November 1, 5, 9, and 30. Burning was restricted a total of 13 days during the month. Air quality continued being generally good throughout the state due to restricted burning during poor smoke dispersion periods.

Laboratory Status:

Total determinations for the month - 394
Total samples for the month - 361

Developments:

Possible error found in past hi-vol data being investigated. Flow corrections were not converted to standard conditions.

Malfunctions found in NO_x and SO_2 analyzers in Colstrip. Repairs will be made as quickly as possible.

New calibration procedures for ozone written.

Hi-vol recording and weighing procedures are being reevaluated to eliminate duplication and to include quality control check.

Routine maintenance and service of analyzers throughout state.

Fluoride plates and papers and grass, fir and pine needles collected in Garrison.

3. Permits and Tax Credits

Construction Permits:

Application:
Nalco Chemical Co., Glendive, Storage and transfer of speciality chemicals
Gus Albert, Valley Co., portable gravel crusher
Kansas-Nebraska Nat. Gas Co., Inc., Phillips County, natural gas pipeline compressor station

Approved:
Washington Const. Co., Powell Co., portable gravel crusher
Continental Oil Co., Billings, modifications to F.C.C. unit
Kansas-Nebraska Nat. Gas Co., Inc., Phillips Co., natural gas pipeline compressor station

Tax Credits:

Anaconda's latest request is still being processed (electric furnace and roaster)

4. Variance Status

Current Variances:

Anaconda Aluminum Co., Col. Falls, F^- and particulate, expires 7/1/77
The Anaconda Co., Anaconda, particulate, expires 12/31/76
ASARCO, Inc., E. Helena, SO_2, expires 6/30/77

New or Renewed:

Anaconda Co., SO_2 variance renewal hearing further delayed until January Board meeting.

Anaconda's application for a variance from visibility rule for the Anaconda Reduction Works has not been scheduled for hearing.

5. Enforcement Action

Citations:

ASARCO, E. Helena, smelter emissions in viol. Fed. 3-hr SO_2 std. - 8/6/76
ASARCO, E. Helena, smelter emissions in viol. Fed. 3-hr SO_2 std. - 8/10/76
ASARCO, E. Helena, smelter emissions in viol. Fed. 3-hr SO_2 std. - 8/14/76
ASARCO, E. Helena, smelter emissions in viol. Fed. 3-hr SO_2 std. - 8/14/76

Notices of Violation:

Del Conner Lumber, Darby, open burning in violation of rule 16-2.14(1)-S1490 (Open Burning Restrictions)

Order for Corrective Action:

Del Conner Lumber, Darby, open burning in violation of rule 16-2.14(1)-S1490, ordered to extinguish all open fires by 12/6/76

Court Actions:

Clayton Berg, open burning, Helena. Trial has been rescheduled for January 14, 1977.

6. Tepee Burner and Open Burning

Many of the temperature charts and operation logs previously requested have been inadequate. Mill operators will be contacted concerning this.

Tepee Burner Status:

No. at Start	40
New Starts	0
Shutdowns	0
No. at End	40

Open Burning Permits:

Kalispell Office - 173	Sanders Co. - 55
Cascade Co. - 8	Yellowstone Co. - 35
Lake Co. - 61	Rest of State - 722
Missoula Co. - 24	Total Permits - 1078

7. Source Tests Performed

Agency Source Tests:

Results from tests on Corette plant in September indicated stratification is occurring.

Non Agency Source Tests:

None

8. Field Invesitgations

Kalispell Feed and Grain, Kalispell, burning request
Stoltze Land and Lumber, Columbia Falls, opacity observation
Coram Experimental Forest, Coram, burning request

Cislo Chevrolet, Polson, opacity observation
Plum Creek, Pablo, opacity observation
C & C Plywood, Evergreen, fire in chip pile
Thompson Falls, Lumber, Thompson Falls, opacity observation
Louisiana-Pacific, Trout Creek, opacity observation
U.S. Forest Service burn, Noxon, management burn
L & L Lumber, Troy, ground fires
Cedar Products, Troy, tepee burner
St. Regis Lumber, Libby, fire practices
Anaconda smelter, Anaconda, observation
Stoltze Lumber, Dillon, tepee burner, observation

9. Complaints

Del Conner Lumber, Darby, open burning, order issued
Kalispell Feed and Grain, Kalispell, open burning, no cause for action
C & C Plywood, Evergreen, heavy smoke from fire in chip pile, corrected.
Slash fires, Yellow Bay, heavy smoke, under investigation
Slash fires, Martin City, heavy smoke, under investigation
Tony Patrick Paint Shop, Butte, air pollution equipment being installed.
Tepee burner, Townsend, smoke, under investigation
Boulder River School, Boulder, emissions from incinerator, corrected.
Gary Hoge, Helena, dust from trucks hauling dirt, corrected
Hostetter Hog Farm, Fromberg, odor, corrected

10. Data Processing Services

Ambient Data Summary:

Monthly report of October air quality data attached.

Emissions Inventory Status:

No source updates were received or processed this month. Updates to the computer system received and processed.

Prevention of Significant Deterioration:

No significant activities performed in this area.

Modeling:

A diffusion modeling analysis was performed on Bull Run Subdivision. Model run for carbon monoxide from increased traffic volumes. No significant levels predicted to occur.

Modeling analysis for particulates and sulfates performed on Hoerner-Waldorf. Results indicate Hoerner-Waldorf responsible for a significant contribution of pollutants at Courthouse station.

APRAC model for Great Falls to project CO concentrations will be instituted in the near future.

11. Environmental Impact Statements

Agency Impact Determinations:

None

Other Agency EIS's Reviewed:

None

12. Status of Studies, Contracts and Reports

Operator manual for mechancial weather station written. Manual will be sent to operators soon.
Quarterly report of air quality data sent to EPA.
Cost estimate for proposed Butte study prepared.
Anaconda smelter SO_2 problems reports have not been received.
Health Study, Phase I - began collecting data. Should be completed 2/1/77
Health Study, Phase II - Continued funding attempt by EPA
Area Source Emission Inventory - inventory for non-AQMA counties complete.
Anaconda Aluminum meteorology study - analysis programs started
Poplar River meteorology study - work proposals and grant proposal prepared.
Prototypical work plan for AQMA's continued.

13. Schools and Training

One week EPA workshop on observing source tests, establishing standard procedures, and quality assurance.

14. Public Hearings and Meetings

Public Hearings:

Board meeting, November 19, 1976, Missoula City-Co. air rules review.

Continuance until January 21, 1977, meeting for hearing on renewal of sulfur oxides variance for Anaconda Co. Mining Division.

Meetings Attended:

Montana Power, Colstrip, monitor, Colstrip
Anaconda Co. and MHD, Butte monitoring, Butte
U.S. Weather Service, Kalispell
Confederated Salish-Kootenai Tribal Council Meeting, ASA notification, Kalispell
Missoula County air pollution board, Missoula
Anaconda Aluminum Co., compliance schedule, Helena
ASARCO, Troy project, Helena
FHWA, Highway Dept., Great Falls transportation plan modeling analysis
Department Highways, Impact Evaluation Group, Helena
Technical Advisory Committee, Billings
Water Quality, 208 and AQMA planning, Helena

Federal 208 planners, Helena
Planning Board, Great Falls

Intra-Staff Meetings:

Staff meetings (2)
Hoerner-Waldorf, Helena (3 meetings)
Poplar River proposed study plans, Helena

15. Public Information Requests

General - 8
Air Quality Rules - 9
Clean Air Act - 3

16. Fiscal Status

Grants Received:

None

Monthly Expenditures:

Program	Budget	Expenditures November	Expenditures Year-to-Date	Funds Remaining
0630	449,576	30,760	141,808	301,282
0631	74,400	---	6,858	67,542
0633	82,635	11,201	21,463	49,036

MONTANA DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES

MONTHLY SUMMARY OF AIR QUALITY DATA

OCTOBER, 1976

Pollutant: Misc. Oxidants Data — Units: Parts Per Million

AQCR	Site Location	HIGH READINGS: Highest 1-Hr Value	HIGH READINGS: Year-To-Date	ARITHMETIC MEAN: Annual Year	ARITHMETIC MEAN: Year-To-Date	ARITHMETIC MEAN: No. of Qtrs. Qtr. Data	Comments
	Carbon Monoxide						
110	14th & S. 27th Billings	----------	----------	***----	----------	----------	----------
	27th & Montana Billings	----------	----------	***----	----------	----------	----------
	Hydrocarbons						
140	27th & Montana Billings	----------	----------	***----	----------	----------	----------
143	BN Site Colstrip	2.80	3.50	3.50	1.005	10	
	Meth. Hydrocarbons						
143	BN Site Colstrip	1.90	2.00	3.80	1.591	10	
	Non-Meth. Hydrocarbons						
143	BN Site Colstrip	1.10	2.00	2.00	0.015	10	
	Nitric Oxide						
143	BN Site Colstrip	----------	----------	***----	----------	----------	----------
	Nitrogen Dioxide						
143	BN Site Colstrip	0.0	0.0	0.0	0.0	7	
	Oxides of Nitrogen						
143	BN Site Colstrip	----------	----------	***----	----------	----------	----------

Pollutant: Misc. Oxidant Data — Units: Parts Per Million

AQCR	Site Location	HIGH READINGS: Highest 1-Hr Value	HIGH READINGS: Year-To-Date	ARITHMETIC MEAN: Annual Year	ARITHMETIC MEAN: Year-To-Date	ARITHMETIC MEAN: No. of Qtrs. Qtr. Data	Comments
	Ozone						
143	BN Site Colstrip	----------	----------	***----	----------	----------	----------
140	27th & Montana Billings	----------	----------	***----	----------	----------	----------
	Sulfur Dioxide						
140	27th & Montana Billings	----------	----------	***----	----------	----------	----------
	Laurel Farm Billings	----------	----------	***----	----------	----------	----------
142	Laurel Water Pit Billings	0.28	0.50	0.50	0.013	5	1 excursion MT 1-hr. std.
	East Stack E. Helena	0.19	0.44	0.44	0.000	10	
	Microwave E. Helena	0.66	1.08	1.08	0.012	10	4 excursions MT 1-hr. std.
	Saddle Mountain E. Helena	0.39	0.58	1.68	0.007	10	2 excursions MT 1-hr. std.
	C-Hill Anaconda	2.22	2.54	2.54	0.017	10	1 excursion Fed. 3-hr. std.
	Hiway Jct. Anaconda	1.02	1.02	1.02	0.017	10	1 excursion Fed. 24-hr. std.
	Mill Creek Anaconda	0.58	0.79	0.79	0.014	10	1 excursion MT 24-hr. std.
	Post Office Anaconda	0.39	1.02	1.02	0.010	10	3 excursions MT 1-hr. std.
143	BN Site Colstrip	0.01	0.02	0.02	0.00	10	

Pollutants: Misc. Bubbler Data — Units: Parts Per Million

AQCR	Site Location	HIGH READINGS: Highest 1-Hr Value	HIGH READINGS: Year-To-Date	ARITHMETIC MEAN: Annual Year	ARITHMETIC MEAN: Year-To-Date	ARITHMETIC MEAN: No. of Qtrs. Qtr. Data	Comments
	Sulfur Dioxide						
140	Low Income School Billings	0.06*	0.210	0.210	0.027	10	
	2nd Ave. So. Coop Billings	0.179	0.267	0.267	0.036	9	
143	Conley Daniels Co.	----------	----------	***----	----------	----------	----------
	Ft. Peck McCone Co.	----------	----------	***----	----------	----------	----------
	Lone Bear Roosevelt Co.	----------	----------	***----	----------	----------	----------
	BN Site Colstrip	----------	----------	***----	----------	----------	----------
	McRae Site Colstrip	0.0	0.0	0.0	0.0	10	
	Nitrogen Dioxide						
	Conley Daniels, Co.	----------	----------	***----	----------	----------	----------
	Ft. Peck McCone Co.	----------	----------	***----	----------	----------	----------
	Lone Bear Roosevelt Co.	----------	----------	***----	----------	----------	----------
	BN Site Colstrip	----------	----------	***----	----------	----------	----------
	McRae Site Colstrip	0.0	0.015	0.015	0.0014	9	

*** Data not available at time of report

Pollutant: Total Suspended Particulates — Units: Micrograms per cubic meter

AQCR	Site Location	HIGH READINGS: Highest Month	HIGH READINGS: Year-To-Date	ARITHMETIC MEAN: Annual Year	ARITHMETIC MEAN: Year-To-Date	ARITHMETIC MEAN: No. of Qtrs. Qtr. Data	Comments
140	Morton Res. Big Horn Co.	64	208	255	58.8	10	
	Warren Ranch Big Horn Co.	53	146	146	25.6	10	
	Lockwood School Billings	83	141	141	43.4	10	
	KOOL Billings	68	106	106	31.7	10	
	City Hall Billings	68	200	200	63.7	10	
	Grand Ave. Sch. Billings	117	199	199	53.4	10	
	28th St. West Billings	143	5398	5398	136.5	6	
	Laurel Jr. Hi. Laurel	35	108	108	31.8	10	
141	Hospital Roof Great Falls	109	124	124	36.5	10	
	Fire Station #1 Great Falls	179	185	185	71.8	10	
142	Sil Bow Gen Hospl Butte	75	173	173	53.1	10	
	Greeley School Butte	142	285	368	92.5	10	
	Adlers Res. Butte	102	306	306	47.9	10	
	Richer Res. Butte	39	39	39	17.6	10	
	Hiway Jct. Walkerville	60	110	110	37.5	10	

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OCTOBER, 1976

Pollutant: Total Suspended Particulates — Units: Micrograms per cubic meter

AQCR	AREA — Site Location	HIGH READING — Current Month	Year-to-Date	Running Year	ARITHMETIC AVER. — Year-to-Date	No. of Rpts. of Data	Comments
142	McKinley Res. Granite Co.	88	117	147	45.1	10	
	Microwave Jefferson Co.	65	84	84	23.0	10	
	212 Pacific St. Lewis & Clark	123	171	231	69.7	10	
	Tierney Res. Sil. Bow Co.	89	202	202	31.5	10	
143	Little Field Miles City	50	87	87	21.1	9	
	Glendive Dawson Co.	52	130	130	31.5	10	
	Lindsay (107349) Dawson Co.	25	38	38	15.1	10	
	Lindsay (107317) Dawson Co.	14	60	60	15.2	10	
	Ft. Peck McCone Co.	30	166	166	22.1	10	
	Broadus Powder River Co.	62	62	62	17.5	10	
	Poplar Roosevelt Co.	82	173	173	24.9	10	
	Lone Pyer Rosebud Co.	23	131	131	14.3	6	
143	BN Site Colstrip	67	104	104	26.8	10	
	McRae Site Colstrip	55	86	86	17.5	10	
144	High School Col. Falls	231	294	294	84.3	10	

Pollutant: Total Suspended Particulates — Units: Micrograms per cubic meter

AQCR	AREA — Site Location	HIGH READING — Current Month	Year-to-Date	Running Year	ARITHMETIC AVER. — Year-to-Date	No. of Rpts. of Data	Comments
144	Riverdrop Res. Libby	62	175	125	48.6	9	
	Courthouse Missoula	236	386	386	81.3	10	
	DB Field Missoula	146	176	176	39.8	10	
	Frenchtown Missoula	136	217	217	31.3	10	

Pollutants: Misc. Indicators — Units:

AQCR	AREA — Site Location	HIGH READING — Current Month	Year-to-Date	Running Year	ARITHMETIC AVER. — Year-to-Date	No. of Rpts. of Data	Comments
	Dustfall - Tons/square mile						
141	Mountain States Cascade Co.	40.16	40.16	40.16	20.0	10	
	Fire Station #1 Cascade Co.	16.87	37.73	37.73	17.91	10	
	Sulfation Rate - milligrams SO3/100 sq. cm.						
140	S/B mi. NE Coop Yellowstone Co.	2.90	4.57	4.57	2.35	9	
	L of Laurel Yellowstone Co.	2.28	3.62	3.62	1.39	10	
	Hi-Hall Trucking Yellowstone Co.	1.21	1.41	1.41	0.84	9	
111	Stock Car Track Cascade Co.	0.02	0.23	0.23	0.05	9	
	Phillips Ref 3. Cascade Co.	0.31	0.40	0.40	0.14	9	
	Phillips Ref N 1 Cascade Co.	0.30	0.33	0.33	0.14	9	
142	Microwave Jefferson Co.	0.36	0.40	0.40	0.28	10	
	Hiway 4b Jct. Deer Lodge Co.	1.31	1.41	1.41	0.66	9	
	C-Hill Deer Lodge Co.	0.59	1.04	1.04	0.74	4	
143	BN Site Colstrip	0.09	0.09	0.09	0.01	7	
	McRae Site Colstrip	0.0	0.0	0.01	0.0	9	

Pollutant: Misc. Indicators — Units:

AQCR	AREA — Site Location	HIGH READING — Current Month	Year-to-Date	Running Year	ARITHMETIC AVER. — Year-to-Date	No. of Rpts. of Data	Comments
	Fluoride Papers - micrograms/sq. cm/30 days						
142	Hultenburg Powell Co.	0.09	2.93	2.93	0.86	4	
	Lahmans Powell Co.	0.08	1.38	1.38	0.40	4	
	N Ac. Hiway Powell Co.	0.11	2.87	2.87	0.84	4	
	Ramsay West Sil Bow Co.	0.80	1.75	1.75	1.03	10	
	BSF Stauffer Sil Bow Co.	1.19	7.87	7.87	3.59	10	
143	BN Site Colstrip	0.01	0.02	0.02	0.015	6	
	McRae Site Colstrip	0.0	0.01	0.01	0.005	6	
144	Dehlbons Pt. Box Flathead Co.	0.52	1.71	1.71	0.86	10	
	Teakettle #10 Flathead Co.	0.0	19.7	19.7	5.20	9	
	Glacier Park #1 Glac. Nat. Pk.	0.26	0.58	0.58	0.31	9	
	Glacier Park #2 Glac. Nat. Pk.	0.19	0.58	0.58	0.34	9	
	Fluoride Plates - micrograms/sq. cm/30 days						
142	Durant Canyon Deer Lodge Co.	1.67	2.29	2.29	1.67	5	
	N Ac. Hiway Powell Co.	------	------	***	------	------	------

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	Fluoride Plates	micrograms/sq. cm/30 days					
142	NW on Hill Powell Co.	0.09	2.48	2.48	0.69	4	
	Ramsay West Sil Bow Co.	1.38	2.17	2.17	1.32	7	
	ESE Stauffer Sil. Bow Co.	1.53	10.92	10.92	4.46	7	
143	BN Site Colstrip	0.0	0.0	0.0	0.0	7	
	McRae Site Colstrip	0.0	0.0	0.0	0.0	10	
144	Teakettle #1 Flathead Co.	----------	----------	***	----------	----------	-------
	Teakettle #2 Flathead Co.	----------	----------	***	----------	----------	-------
	Anaconda S. Flathead Co.	5.15	8.82	8.82	5.16	9	
	Glac. Park #1 Glac. Nat. Pk.	0.27	0.72	0.72	0.41	10	
	Glac. Park #2 Glac. Nat. Pk.	----------	----------	***	----------	----------	-------

*** Data not available at time of report

Pollutant: Units:

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Pollutant: Units:

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